Ethernet Gateway Modules

⊕EMKO

SGN4P1-00-00-00-00_1   SGN8P1-00-00-00-00_1

General Specifications :

* Ethernet 10/100 Mbit
* Up to 8 Master Device at TCP side, can query at the same time
* 2 pieces Modbus RTU communication protocol with RS485
* USB – Device (For device configuration)
* Modular connection (up to 16 extension modules can be connected)
* IP selection with Dipswitch adjustment
* Led indicators:
  - Power Supply, USB, RS-485
  - Ethernet, MS, NS, IO

Technical Specifications

Module Type	SGN4P1-00-00-00-00_1	SGN8P1-00-00-00-00_1
Supply Voltage	24 VDC ±%20 (19,2 VDC - 28,8 VDC)	
Power Consumption	2W	1.5W
Communication	2 x RS-485 Modbus RTU	-
USB Device	Mini USB, USB 2.0	
Ethernet	10 / 100 Mbit	
Led Indicators		
Power	Always ON if the power input is in working limits, flashes 0.1s when undervoltage detected Flashes 0.5s if the communication between Master and Slave module didn't start Flashes 1s if the communication between Master and Slave module broken Flashes 0.2s if the device in Software Boot Mode	
USB	Always ON if the USB cable plugged, flashes during data transfer	
RS485	Flashes during Modbus data transfer	
Ethernet	Yellow : Speed, Green : Link	
MS	Continuously (Green) : Modul is working normally Blink (Green) : Module not configured or invalid configuration Continuously (Red) : Error detected	
NS	OFF : Ethernet connection not detected / No Continuously (Green) : Connected to at least one TCP client module Blink (Green) : There is not any TCP connection on the module	
IO	OFF : No extension module detected / No Continuously (Green) : Module communicate with extension modules Blink (Green) : Module, doesn't communicate with extension modules Blink (Red) : Timeout occured with at least one extension module (after 3 unsuccessfull queries)	
Dipswitch	Used for IP adjustment	-
Operation / Storage Environment		
Operation Temperature	-10°...+60° C	
Storage Temperature	-20°...+70° C	
Isolation	* There is no isolation between Power and USB * 500VAC isolation between Power & RS485-1 and Power & RS485-2 individually * 500VAC isolation between RS485-1 & RS485-2	

Modbus Parameters Addresses

Address	R/W	Parameter Name	Description	Default
			Ethernet Parameters	
40001	R/W	ID (Bus)	ID can be set between 1 – 255	1
40002	R/W	Port (Bus)	Port can be set between 1 – 65535	3501
40003	R/W	Protocol (Bus)	0- Modbus TCP 1- Modbus RTU over TCP	0
40004 [1]	R/W	Protocol (RS485-1)		0
40005 [1]	R/W	Protocol (RS485-2)		0
40006	R/W	IP	IP value is in the form of A.B.C.dipswitch. **40006** = A **40007** = B **40008** = C **40009** = dipswitch (can only be read)	192 168 0 dipswitch
40007	R/W			
40008	R/W			
40009 [2]	R			

Example : According dipswitch configuration in the picture, with default values of 40006, 40007 and 40008. IP value is 192.168.0.**178**

	Bit	=	1	2	3	4	5	6	7	8	
	Status	=	OFF	ON	OFF	OFF	ON	ON	OFF	ON	
	Multiplier	=	1	2	4	8	16	32	64	128	
	Value	=	0 +	2 +	0 +	0 +	16 +	32 +	0 +	128	= **178**

Address	R/W	Parameter Name	Description	Default
40010	R/W	Netmask	Netmask value is in the form of A.B.C.D **40010** = A **40011** = B **40012** = C **40013** = D	255 255 255 0
40011				
40012				
40013				
40014	R/W	Gateway	Gateway value is in the form of A.B.C.D **40014** = A **40015** = B **40016** = C **40017** = D	192 168 0 1
40015				
40016				
40017				
40018	R	MAC address	MAC address is in the form of A:B:C:D:E:F **40018** = A **40019** = B **40020** = C **40021** = D **40022** = E **40023** = F	-
40019				
40020				
40021				
40022				
40023				
40051	R/W	Inactivity Time (Bus)	After the last data sent, when the defined time has elapsed without data communication, the connection is disconnected. Value Range : (0 : OFF, 1 – 3600sec)	5
40054	R/W	Keep-Alive	A keep-alive packet is sent in order to keep the connection status alive. If there is no response to packet, the connection is disconnected. 0- Passive 1- Active	1
40055	R/W	Keep-Alive Time	Defines the time until the first keep-alive packet is sent. Value Range : (0 – 65535sec)	7200
40056	R/W	Keep-Alive Interval	Defines the interval between each keep-alive packet. Value Range : (0 – 65535sec)	75
40057	R/W	Keep-Alive Retry	Defines the number of repetitions of keep-alive packet sending before disconnection. Value Range : (0 – 65535)	9
			Device Parameters	
40034	R	Reserved	In case of Master Mode, shows number of connected Slave Modules	-

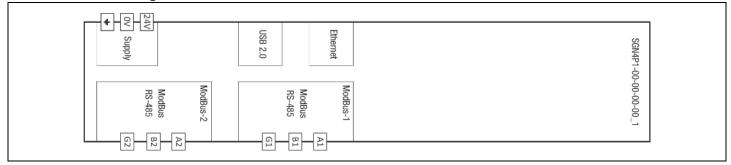| 40035	R	Type/Bus Order	**b15-b8** : module types according to code : SGN4P1-00-00-00-00_1 = 0xC0 SGN8P1-00-00-00-00_1 = 0xC2 **b7-b0** : module bus order : 0- Master module 17- Single module (No other device on the bus)	-
40036	R	Version	Hardware and software versions displayed on a bitwise basis. **b15-b12** : Hardware Version **b11-b6** : Software Major Version **b5 -b0** : Software Minor Version	-
40037	R/W	Error Status [3]	Error status displayed on a bitwise basis **b0** : Low Power Supply Voltage Level **b1** : Analog Input could not read **b2** : Ethernet communication timeout error **b3** : RS485-1 communication timeout error **b4** : RS485-2 communication timeout error **b8** : Error in slave module number **b9** : Error in slave module type **b10** : Error in communication between slave modules **b15-b11** : The number of the Slave module in which the error was detected *Note-3 : In case of any ethernet communication error arises, communication between slave modules interrupted. By writing 3083 to the relavent adress, the error bit cleared and the communication started again.*	-

Address			RS485 Modbus Parameters			
RS485-1	**RS485-2**	**R/W**	**Parameter Name**	**Definition**		**Default**
40040 [1]	-	R/W	Port	Value Range : (1 – 65535)		3502
-	40046 [1]					3503
40052	40053	R/W	Inactivity Time	After the last data sent, when the defined time has elapsed without data communication, the connection is disconnected. Value Range : (0 : OFF, 1 – 3600sec)		60
40041 [1]	40047 [1]	R/W	Baud Rate (kbps)	0- 1200 4- 19200 1- 2400 5- 38400 2- 4800 6- 57600 3- 9600 7- 115200		6
40042 [1]	40048 [1]	R/W	Stop Bit	0- 1 Bit 1- 2 Bit		0
40043 [1]	40049 [1]	R/W	Parity Bit	0- None 1- Even 2- Odd		0

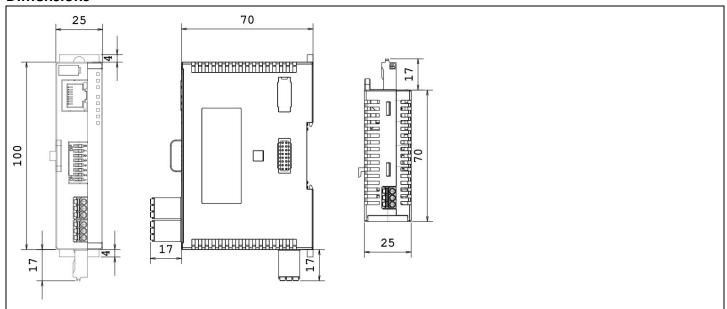*Note-1 : Related parameters are not used for SGN8P1-00-00-00-00_1 type*
Note-2 : 40009 IP parameter value is used as R/W for SGN8P1-00-00-00-00_1 type.

Installation & Wiring

*   Do not connect AC Power to any I/O terminal, otherwise serious damage may occur in module. Please check all wiring prior to energizing device. In order to prevent electromagnetic interference, be sure the grounding made corrected. Connect ground terminal in the power input connector to the overall system ground. Don't touch any terminals after energizing the device, in case of need to touch any terminal, de-energize the device before connection.

*   For RS485 communication connection; Connect the terminal resistor (120R) between the A&B of the module at the end of the communication line. Use shielded and twisted-pair communication cable. Ground the shield connection of the cable to power input earth terminal.

Dimensions

Product Order Codes

Ethernet Gateway Modules	Ethernet	Dipswitch	USB	RS485
SGN4P1-00-00-00-00_1	1 x 10/100 Mbit	+	+	2 x
SGN8P1-00-00-00-00_1	1 x 10/100 Mbit	-	+	-